

## Labor market I: data from the German Federal Employment Services

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### Labor Market I

Data from the German Federal Employment Services

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Stefan Bender and Joachim Möller

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Labor Market I  
**Data from the German Federal Employment Services**

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**Abstract**

This contribution shows the increasing supply on German micro data over the last years for labor market research. We focus on the research data centre movement, the development of new anonymisation techniques for establishment data, the new challenges of the social code II and the fundamental change to evaluate labor market programmes actively with administrative data. Although a lot of ongoing developments like combining different data sets are happening, we make three recommendations for future developments in this area: (1) Demand to have an influence on the data production. (2) The need to combine data sets (especially across national borders) (3) Importance to establish an international infrastructure for data access.

Keywords: labor market, data access, administrative data, linked employer employee data, research data center, social code II, evaluation

## Motivation

For a motivation chapter we could write how important it is to have data for labor market research or that theoretical or public discussion should have an empirical verification as a background. Because that's a data chapter and we want to say something about the development of the German data infrastructure, we will stick to the very illuminating introduction of Dan Hamermesh's article "Fun with Matched Firm-Employee Data: Progress and Road Maps". Hamermesh raised the question: "What generates scientific progress (assuming that we can use the term science to talk about economics)? Does it matter whether causation runs from data to problems or from problems to data? I think it does" (2008, 664). We agree with Hamermesh, that without the PSID (in the case of Germany: GSOEP) we would not know so much about inter-temporal labor supply and about the inter-generational transmission of inequality. Without the availability of administrative data for evaluation of the active labour market programs, we would not know so much about their effects. Kluve (2006), for example, reports that almost 80% of all microeconomic evaluation studies in Europe are based on administrative data.

Without having micro data on establishments the work of Dunne et al. (1989) or Davis and Haltiwanger (1992) would have had their current intellectual influence.

In terms of issues of firm behavior in particular, I doubt that we would even have thought about the issues in the way we now do without the availability of this type of data. No doubt the opposite is also often true, but my purpose here is to talk about the former. To paraphrase Matthew 5, "Blessed are the data developers because they inspire the creation of knowledge." Creating data is a very thankless task for which one gets very few points. Yet so many of our ideas are inspired by new data, and so much of research rests on innovations in questions and data collection that are barely, if at all, acknowledged by the more technical researchers. (Hamermesh 2008, 664)

Because we are write the motivation this chapter in the first half of 2009 our "last words" are about the financial crises and the causes on the labor market. The financial crisis is an international phenomenon and it hits us in a short amount of time. Most of the researchers are speechless and one of the reasons are: we do not have the right data. Having developed the German data infrastructure is a good and meaningful thing, but such a crisis shows us: we need international comparable data sets on the microdata level (e.g. on multinational firms, combined data sets of migrants) and covering different spheres of content like trade, outside investments, offshoring, outsourcing, labor flows, earnings, strategical planning...

## 1. Situation before KVI<sup>1</sup>

Compared to some years ago the access to confidential micro data – which it often crucial in this context – has improved a lot. Milestones before KVI are the network FiDASt (*FirmenDaten aus der amtlichen Statistik* – firm level data from official statistics) and the so called *Schalterstelle* of the IAB (remote data access). The FiDASt projects required access to data from the statistical offices of the Länder. They formed a network for analyzing firm level data via remote data access or via the status of the researcher becoming an unpaid employee of a statistical office (for details see Wagner in the same book).

The only for researchers available micro data were the IAB employment sample and the German micro census. So Falk and Steiner (2000) claimed in their expertise for the KVI, that there should be additional micro data sets for the scientific community, like information of the active labor market policy, the linked employer employee data set of the IAB or aggregated information for establishments out of the employment statistics (*Beschäftigtenstatistik*). The information on marginal employed (*geringfügige Beschäftigte*), information on working forms, which are outside the German “constituted working norm” (*Normalarbeitszeitverhältnis*), like temporary employment, temporary contracts and self employment should be improved and available, too. Because of the high demand for establishment and firm data, data should be available in some way. Quantitative information on establishments/firms are hard to anonymised, so there should be an examination how these data can be offered to the researchers. Basic information for employment and income/wages should be available in the internet for free (especially employment and unemployment rates by qualification differentiated by age groups and sex). Compared with the U.S. Bureau of Labor Statistics the information given by the Federal Statistical Office (*Statistische Bundesamt*) and the BA could be improved.

## 2. Situation after KVI

### 2.1 *The establishment of Research Data Centers and Data Service Centers in Germany*

Following the suggestions of the KVI (*Kommission zur Verbesserung der informationellen Infrastruktur zwischen Wissenschaft und Statistik* 2001) most of the important data producers of firm level, organizational, labor market data, household income, poverty and wealth data installed research data centers. Since 2000 one of the main landmarks in improving the

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<sup>1</sup> Our expertise will stick mostly to the current situation, the developments since KVI (2001) and the required developments in the near future of the Federal Employment Agencies (BA) and Institute for Employment (IAB) data. The other labor market paper done by Hilmar Schneider will capture the situation outside the BA/IAB.

German data infrastructure was the establishment of the four publicly funded research data centres (FDZ) – the Research Data Centre of the Federal Employment Agency at the Institute for Employment Research (FDZ-BA), the Research Data Centre of the German Pension Insurance, the Research Data Centres of the Federal Statistical Offices and the statistical offices of the Länder – and the two data service centres - the German Microdata Lab at the Center for Survey Research and Methodology (ZUMA) and the International Data Service Center at the Institute for the Study of Labor (IZA).

The FDZ-BA started in April 2004 and its micro datasets include the IAB Establishment Panel, the IAB Employment Samples (IABS), the BA Employment Panel (BAP), the Integrated Employment Biographies Sample (IEBS), the Establishment History Panel (BHP), the Linked-Employer-Employee Dataset from the IAB (LIAB), the cross-sectional survey “Life Situation and Social Security 2005” (LSS 2005) and the first wave of the panel study “Labour Market and Social Security” (PASS).<sup>2</sup>

## 2.2 *New developments in anonymisation techniques*

In recent years, the public demand for micro data increased dramatically. But statistical agencies face the dilemma that, although they might be willing to provide all the information required, a release of the datasets might not be possible for confidentiality reasons. The natural interest of enabling as much research as possible with the collected data has to stand back behind the confidentiality guaranteed to the survey respondent: Once the confidentiality is in doubt, potential respondents might be less willing to provide sensitive information, might give wrong answers on purpose or might even be unwilling to participate at all - with devastating consequences for the quality of the data collected (Lane 2005).

For that reason, a variety of methods for disclosure control has been developed to provide as much information to the public as possible, while satisfying the disclosure restrictions needed to maintain the quality of the collected data (Willenborg and de Waal 2001; Abowd and Lane 2004).

For German establishment datasets a broad literature on perturbation techniques with different approaches can be found (for example Brand 2002; Gottschalk 2005; Rosemann 2006; Drechsler et al. 2007).

Official Statistics in Germany has carried out a research project on "Factual Anonymisation of Business Micro Data" together with scientific users of its data, which was

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2 There is an English documentation on the web page for nearly every dataset and a publication in the data watch section of Schmollers Jahrbuch.

finished in summer 2005. For the project, a large amount and variety of perturbation approaches were tested. Moreover, test analyses with anonymised real data and compared the results with those obtained from analyses based on original data were performed.<sup>3</sup> Several anonymised cross section data were made available. They included data on cost structures in industry and on structures in retail trade, and also turnover tax data. Detailed descriptions of the scientific use files can be found in (Lenz et al. 2005), (Vorgrimler et al. 2005) and (Scheffler 2005). Recently, similar approaches were made to anonymise further business statistics like the German data of the Continuing Vocational Training Survey 1999 and the German Structure of Earnings Survey 2001.

In the project “Business Statistical Panel Data and Factual Anonymisation” (FAWE Panel), the goal is to considerably improve scientists’ data access to panel data from official statistics offices and the BA. Through cooperation between different research data centres and the Institute for Applied Economic Research (IAW), the objective is to

- expand the data supply for scientists with individual business statistical panels,
- optimise the analysis potential of business statistical panel data
- and research the possibility of factual anonymisation of panel data in the field of economic statistics with the aim of also making these available as scientific use files.

Results from this project will be available end 2008 / beginning 2009.

On the one hand anonymization techniques helped to release establishment/firm data on the other hand the degree of anonymisation for some individual data decreased over time. For example, in the IAB Employment Sample the so-called panel anonymisation was removed.

### 2.3 *A new unexpected situation: The Social Code II<sup>4</sup>*

With the change in the unemployment insurance and the social benefit in 2005 (so-called Social Code II, SGB II) a new data infrastructure has arisen in Germany. The changes were in three main fields:

1. Job search and participation in active labour market schemes
2. Data stemming from the SGB-II-software A2LL.
3. Data from the different 69 districts, where only local authorities are in charge of administering the unemployment benefit II (zugelassenen kommunalen Trägern; zkt).  
Data are coming to the BA via the interchange program XSozial.

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<sup>3</sup> For more information about this project see Lenz et al. (2006).

<sup>4</sup> This chapter is taken from Koch et al. (2008). It is shortened and translated.



With the start of the SGB II the BA expanded their IT administrative procedures (IT-Fachverfahren). For example, they introduced (July 2006) an integrated programme for occupational counselling (Berufsberatung) und employment service (Arbeitsvermittlung). For the years 2006/2007, the quality of the data could have been better.

Because of a fast process of the political debate, in 2004 A2LL was really fast implemented. Beside a lot of problems with the software, which headed in the German newspapers, there is no interface between the data out of A2LL and all other data sets of the BA, which are stored in the BA data warehouse. To integrate those data, is therefore time and cost intensive. In 2005 and 2006 the A2LL data changed a lot, because of the synchronization of individuals and needy households (Bedarfsgemeinschaften) over time. The responsibility of individuals in needy households for each other, ended with a different logic of the representativeness of the data before and after introducing the SGB II. Before SGB II only individuals were in the data, when they got unemployment insurance. After SGB II unemployed with a partner, who earns enough money, are no longer eligible to get unemployment benefit. For low income earnings the situation changed, too. Before SGB II they didn't get additional money from the unemployment insurance, after SGB II that can be the case.

The situation of data from XSozial is rather complex. Because of starting problems by all institutions, there are no micro data for the first years available. End of 2006 the BA started to try a micro data base in time for those data. Until now, they have not finished their work and make the data available for researchers. The main reason for the delay is missing data, the different time structure and the different variable canons between the different software. Because of the lack of information in the XSozial data, a harmonized data set will end up with only some basic variables.

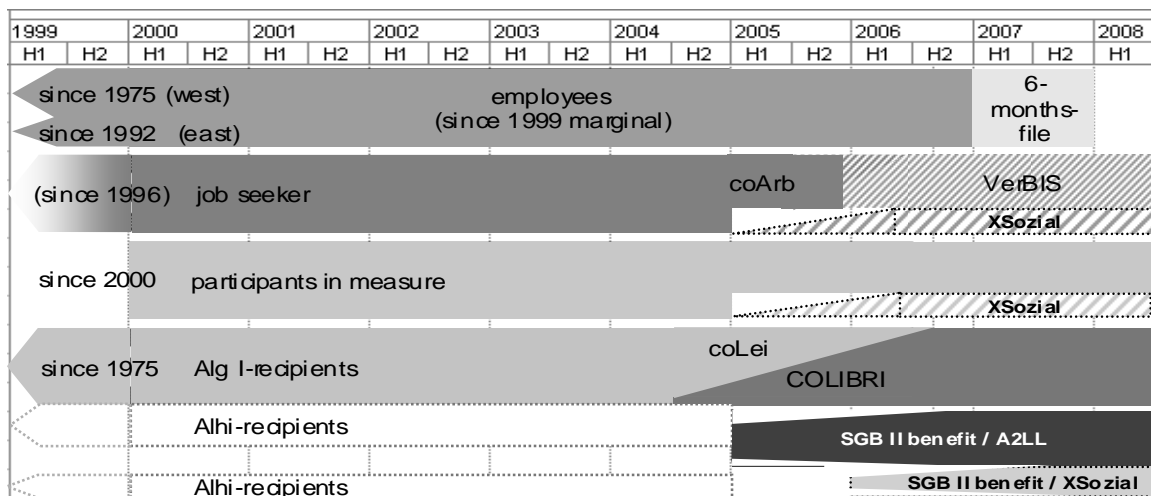
In the IAB the SGB II data will be integrated into the Integrated Employment Biographies, where at the moment information on employment based on the social security system, benefit receipt, participation in measures of active labour market policy, and job seekers are integrated over time (since 1990) and harmonized.

Between 2005 and autumn 2007 information of unemployment benefit can be distinguished between the traditional unemployment benefit (Arbeitslosengeld) and the “new” unemployment benefit II (ALG II). Not integrated in XSozial are data from the different 69 districts, where only local authorities are in charge of administering the unemployment benefit II.

Everyone should be aware that - starting with 2005 – Germany has some white regions on the data maps, where before was information. For the years 2005 and 2006, there are no micro data for the 69 districts available. The lack spread also in the statistic covering the social benefit (Sozialhilfestatistik). As a unwilling result, there are no administrative micro data available to cover the historical and one of the biggest changes in the German labour market (2004/2005).

If you keep in mind, that some other regional authorities with different legal constructions of the SGB II (ARGEn, Kreise mit geteilter Traegerschaft) have used different not integrable software for their job seekers and their needy individuals of the SGB II, the situation is not becoming better. Since 2006, nearly everyone is using the same software (A2LL). All rescue effort for getting micro data for those white region for the year 2005 failed. XSozial data for 2005 will not available if not techniques like imputation are used to reconstruct these data lacks.

Figure 1: Short summary of the lacks in administrative data stemming from SGB II



Beside administrative data and “standard” surveys, two new surveys can be used for analyzing the situation of needy households or individuals living in needy households. The cross-sectional survey “Life Situation and Social Security 2005” covers the period 2005-2006 and asked 20,832 recipients of unemployment benefit. It is a unique survey, because it covers the time, where the Social Code II was introduced. The panel study “Labour Market and Social Security” started with its first wave in 2006/2007 and asks household of recipients of unemployment benefit II and low wage earners. The panel covers 12,794 households and 18,954 individuals.

#### 2.4 *The new spirit: labor market research with administrative data*

Until the late 1990 the evaluation of active labor market policies was in a long sleep. Starting with the so-called Hartz-Reforms end of 2002 the German Bundestag commissioned an evaluation of these reforms as a large research project (around 100 researchers in nearly 20 institutions with a budget of around 10.3 Mio Euro work in different projects). The extensive investigations as to the effects of active labour market policy symbolize a new quality in the discourse of policy and research in Germany. Labour market policy is now more something like a “learning system”: New instruments are temporary introduced and will be evaluated by researchers, which leads to improved instruments (if there is a need for changes). With this framework labour market policy is a pioneer against other political areas. It is required by law to do research (Social Code II and III) and do have a detailed, well defined mandate. The Hartz evaluation is not just any project but one that influences future labour market research in Germany and an example of a new form of scientific policy advice (Heyer 2006).

The research network of the German Research Foundation (DFG) “Flexibility of Heterogeneous Labour Markets” has started in 2004 with the main objective to search for capabilities to meet the permanent challenge of fast and adequate respond to changes in the labour market. Priority goal of the research programme is thus to analyse rigidities, which are due to historically grown labour market institutions and to investigate whether and to which extent deregulation is possible and necessary. One of the main goals was to organize a researcher group, who will active use the data of the FDZ/BA and maybe of other RDCs. The research network and the FDZ/BA joined an informal network and stimulated the data production, raised the data quality and published articles in international journals (see [www.zew.de/dfgflex](http://www.zew.de/dfgflex) for further information).

Beside those network a lot of researchers, who are interested in labour market used data of the RDCs (see expertise of RDC). For example, 341 publications were produced with data of the FDZ/BA by their users (date September 2008). 27 are publications in SSCI-journals and additional 42 in peer-reviewed journals. Keeping in mind, that there a lot of publications on the way – indicated by the increasing number of discussion papers – Germany is no longer an empirical labor market research wasteland. Consequently, a quantitative and a qualitative improvement in papers at international conferences based on BA/ IAB data is observable, which are published in international, high quality journals, too. There should and could be done more to improve research with German data sets, but it should be kept in mind, that starting point was 2004 and that research with datasets is a slow diffusion process. There must be some visible articles before other researchers are working with the data.

### **3. What is still missing?**

Because of the developments in the last few years some of the lacks mentioned by Falk and Steiner (2000) are overcome, some are not. For example, the availability of establishment data, data for evaluating the active labour market policies, linked employer employee data and data for some specific groups of the labour market are now available. But precise data for earnings and wages are still not available. The data sets like the employment statistics or the Microcensus have not changed their concepts over the last few years. An exception is the SOEP, where the data quality of income and assets were raised (see for example Anger et al. 2008).<sup>5</sup> Although some specific groups of the labour market are incorporated into the administrative micro data of the BA / IAB, like marginal employed, there is still no information for temporary employment, temporary contracts or self employment for Germany available.

Basic aggregated information of some labor market indicators (like employment) is available in the internet for free, but the information system is still behind for example the information system of the U.S. Bureau of Labor Statistics. The information given by the Federal Statistical Office and the BA could be still improved. Some basic aggregated information like wages or regional price indices are still missing.<sup>6</sup>

### **4. Outlook**

Because researchers will use administrative data more often, there is a demand to change the administrative data production for researchers' needs in two directions. Adding additional variables like working hours, contract type or anonymised case worker IDs to existing data sets and to give more information about the data generating processes, because data quality of administrative data is an undeveloped research field. Some planned changes in the variable development are going "automatically" in the direction of researchers needs like working hours or an international comparable occupation code in the employment statistics (Beschäftigtenstatistik), but there should be a "constant pressure" of the researcher community to get more relevant micro data out of administrative processes and the increase data quality.

There is an increasing importance to create precise micro data for relevant topics (like innovation, globalization) available for researchers. For example, in a by the Leibniz

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<sup>5</sup> See the paper of Schneider in the same book for a deeper discussion on the topic.

<sup>6</sup> The RatSWD has initiated expertises on regional price indices in 2008.

Association co-funded project (“Further Training as a Part of Lifelong Learning”) there will be a “double” linked employer employee data set available. For the first time in Germany employer and employee data stemming from surveys and administrative data for both groups (Bender et al. 2008) will be combined. There is a strong need to combine available data (administrative data, survey data, commercial data and internet data). Because in the case of Germany, we do not have comparable unique identifiers in the data sets, we need more research on record linkage techniques and a dialogue with representatives of data protection and legislatures (see the two papers on record linkage by Schnell and Metschke).

The projects “Amtliche Firmendaten für Deutschland” (official firm data for Germany – AFiD) and “Kombinierte Firmendaten für Deutschland” (combined firm data for Germany – KombiFiD) will extend the range of data in two directions: AFiD will bring together economic and environmental data from the Statistical Offices; KombiFiD will link for the first time company data from the statistical offices, the German Bundesbank and the BA/ IAB (Hethy and Spengler 2009).

The project “Biografiedaten ausgewählter Sozialversicherungsträger in Deutschland” (“Biography data of selected social security agencies in Germany”) will combine administrative data from the German Pension Insurance with data of the IAB. It will offer a scientific use file for researchers in Germany and abroad and on-site use. There is a great need to have international data sets, because individuals are migrating and a lot of firms are no longer sticking to national borders. Data sets should not have those restrictions.<sup>7</sup>

There is an increasing importance in establishing an international infrastructure for data access (includes translation, harmonization, integrated meta data systems, integrated access, remote access) and a need to coordinate the different developments in different organizations and/or countries.

The RatSWD itself, German researchers and the RDCs have started to present the German model of data access and data infrastructure in international conference. The German example in organizing the access and building up an infrastructure could be a blueprint, how a possible international system can be established. There is a need to coordinate and push some of the main activities soon into the right directions.

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7 “However, an improved statistical infrastructure is needed not only on the national level. As the European research landscape evolves, it produces increased demands on the data infrastructure in order for the social sciences and economics to develop their full potential in the area of social comparisons as well. By actively participating in important developments at both the national and international levels, the RatSWD intends to work even more intensively in this important field in the future. It already provides a platform for a fundamental discussion and planning process that is almost one of a kind both in Europe and beyond. If international and interdisciplinary strategic planning is to be successful in fostering empirical research and improving the research infrastructure, however, greater involvement of the professional scientific organizations representing the social sciences and economics will be urgently needed. The RatSWD will endeavor to promote this involvement” (Solga and Wagner 2007, 4).

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